

U.S.S.N.: 09/882,843

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AMENDMENT AND RESPONSE TO OFFICE ACTION

A³
 R²⁰ and R²¹ are independently H, H₂N-, or CH₃CONH-; and pharmaceutically acceptable salts thereof.

A⁴
 28. (amended) The method of claim 26 wherein the compound of Formula II is selected from the group consisting of

1-(4-Aminophenyl)-4-methyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-4-methyl-7-methoxy-5H-2,3-benzodiazepine, [1-(4-Aminophenyl)-4-methyl-8-methoxy-5H-2,3-benzodiazepine,] 1-(4-Aminophenyl)-7-amino-4-methyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-4-methyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-4-methyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-4-methyl-8-methylthio-5H-2,3-benzodiazepine, and 1-(4-Aminophenyl)-7-amino-4-methyl-8-methylthio-5H-2,3-benzodiazepine.

Remarks

Amendment to the claims

Claims 1-11, 13 and 16-26 are amended in response to the office action. The term "F, Cl, Br" is deleted from the definitions of the groups wherein the term "halogen" is also recited.

Claims 1, 10, 16 and 25 are amended to add R¹⁴S- to the definition of R¹, R², R³, and R⁴, taken independently. Claims 5 and 13 are amended to delete the second occurrence of the species 1-(4-aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine. Claims 16 and 25 are amended in that the group "R¹³O" is deleted from the definition of one of the R² and R³ groups and in that "H" is deleted from the definition of R³ when R² recites, among others, R¹³O. Claims 20 and 28 are amended to delete 1-(4-aminophenyl)-4-methyl-8-methoxy-5H-2,3-

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benzodiazepin. Support is found in the original claims 5, 13, 19, 20, and 28 and at p. 11, line 18 to p. 14, line 12; and p. 17, lines 1-9.

Rejections under 35 U.S.C. 112, first paragraph

Claims 3, 4, 6-15, 18, 19, 21-27, 29 and 30 were rejected under 35 U.S.C. 112, first paragraph, for allegedly lacking enablement. In particular, the Examiner asserted that the specification provides enabling disclosure for ischaemia but not for other neurological diseases. The applicants respectfully disagree.

Claims 3, 6-8, 18, 21 and 23 are drawn to a composition having a compound of formula I or formula II defined there. The compounds are fully described in the specification. The pharmaceutically acceptable carrier recited therein are fully described at p. 24, line 15 to p. 25, line 21. Therefore, claims 3, 6-8, 18, 21 and 23 are fully enabled to one of ordinary skill in the art.

Claims 4, 7, 9, 19 and 22 as amended are drawn to a composition having a compound of formula I or formula II defined therein in a dosage form for treating a disorder in a patient associated with excessive action of the α -amino-3-hydroxy-5-methyl-4-isooxazolepropionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors. Claims 10-15, 24-27, 29 and 30 are drawn to a method of treating a disorder in a patient associated with excessive action of the α -amino-3-hydroxy-5-methyl-4-isooxazolepropionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors. The claims are not drawn to the treatment of any neurodiseases, but rather, only the disorders associated with excessive activation of the AMPA subtype of the ionotropic EAA receptors (see, p. 1, line 11 to p. 2, line 17; p. 21, bottom to p. 24, line 13). Neurodiseases may have causes other than excessive

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activation of the AMPA subtype of the EAA receptors. However, to the extent that those disorders are associated with an excessive activation of the AMPA subtype of the EAA receptors, administering to a patient having such a disorder would provide a treatment or ameliorate the symptoms of the disorder associated with the excessive activation of the AMPA subtype of the EAA receptors. Indeed, as Example 28 described at p. 33, line 20 to p. 34, line 17, shows, the compounds described herein are effective for inhibition of Ca^{2+} influx into cortical cells stimulated with AMPA, which is an indication of the *in vivo* effectiveness of the compounds for treating or ameliorating disorders associated with excessive activation of the AMPA subtype of the EAA receptors (*see In re Branna*, 51 F.3d 1560, 1566, 34 USPQ2d 1436, 1441 (Fed. Cir. 1995); *see also* MPEP § 2164.02). Accordingly, claims 4, 7, 9-15, 22, 24-27, 29 and 30, as amended are fully enabled to one of ordinary skill in the art.

In summary, claims 3, 4, 6-15, 18, 19, 21-27, 29 and 30, as amended, are fully enabled to one of ordinary skill in the art.

Rejections under 35 U.S.C. 112, second paragraph

Claims 1-30 were rejected under 35 U.S.C. 112, second paragraph, as indefinite. The applicants respectfully traverse the rejections if they are applied to the claims as amended.

Claims 1-4, 8-17, 15-19, 23-27 and 30 were rejected as indefinite for reciting the term "halogen" together with the term "(F, Cl, Br)." The claims are amended to delete the term "(F, Cl, Br)."

Claims 1-4, 8-12, 15-19, 23-27 and 30 were rejected as indefinite for not providing an antecedent basis for C1-C3-alkylthio. Claims 1, 10, 16 and 25 are amended to include " $\text{R}^{14}\text{S}-$ " in the definition of R^1 , R^2 , R^3 , and R^4 .

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Claims 2, 11, 17 and 26 were rejected as indefinite for reciting "R¹³S-." The claims are amended to recite "R¹⁴S-," which is included in the definition of claims 1, 10, 16 and 25, as amended.

Claims 3, 6, 8, 18, 21 and 23 were rejected as indefinite for reciting "a pharmaceutically acceptable carrier" in a compound claim. Claims 3, 6, 8, 18, 21 and 23 are amended to be drawn to a composition having the compound defined therein.

Claim 4, 7, 9, 19, 22 and 24 were objected to as being a substantial duplicate of claim 3, 6, 8, 18, 21, and 23, respectively. The applicants respectfully disagree. Claims 4, 7, 9, 19, 22 and 24 require a "therapeutically effective amount" of the compound defined in claim 3, 6, 8, 18, 21, and 23, respectively. The element "therapeutically effective amount" is a valid limitation in patent claims of the pharmaceutical art (see, for example, Warner Lambert Co. v. Apotex Co. (Fed. Cir., Slip Opinion, 02-1073, January 16, 2003). Therefore, the applicants submit that claim 4, 7, 9, 19, 22 and 24 are not a substantial duplicate of claims 3, 6, 8, 18, 21, and 23, respectively.

Claims 3, 4, 6-15, 18, 19, 21-27 and 30 were rejected as allegedly indefinite. Particularly, the Examiner alleged that the claims did not set forth any steps involved in determining which are the mediated by inhibiting the activity of AMPA subtype of the ionotropic EAA receptor. The applicants respectfully disagree. The claims are drawn to providing compositions having a compound of formula I or formula II defined therein and methods of using the composition for treating disorders associated with an excessive excitation of the activity of AMPA subtype of the ionotropic EAA receptors (see, description at p. 1, line 11 to p. 2, line 17; p. 21, bottom to p. 24, line 13). The claims are not limited to the treatment of any

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particular type neurodiseases but all of the diseases associated with an excessive excitation of the activity of AMPA subtype of the ionotropic EAA receptors. Therefore, the claims are definite. However, to facilitate the prosecution of the present application, the claims are amended to delete the term "therapeutically effective amount."

Claims 5 and 13 were rejected as indefinite for twice reciting 1-4-aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine. One of the compound recitation is deleted from claims 5 and 13.

Claims 5, 13, 20 and 28 were rejected as indefinite for reciting 8-methylthio, 7-methylthio, 7-amino, or 8-amino with proper antecedent basis. Claims 1, 10, 16 and 25 were amended to provide R¹⁴S- in the definition of R¹, R², R³, and R⁴. The claims as originally filed have antecedent basis for 7-amino or 8-amino in that R¹, R², R³, and R⁴ can be R¹⁵R¹⁶N-.

Claims 16 and 25 were rejected as reciting R¹⁷. The term "R¹⁷" is deleted from claims 16 and 25.

Rejections under 35 U.S.C. 102

Claims 16-19, 23 and 24 were rejected under 102(b) as anticipated by Rona et al., Journal of Chromatography B: Biomedical Applications 678(1):63-72 (1996) ("Rona"). Claims 16-19, 23-27 and 30 were rejected under 102(b) as anticipated by U.S. Patent No. 4,614,740 to Lang et al. ("Lang"). Claims 1-30 were rejected as anticipated under 102(b) by WO 97/28135 ("Ling"). The applicants respectfully rebut the rejections if they are applied to the claims as amended.

Rona

Rona at p. 64 describes 1-(4-aminophenyl)-4-methyl-7,8-dimethoxy-5H-2,3-benzodiazephine, N-acetyl-1-(4-aminophenyl)-4-methyl-7,8-dimethoxy-5H-2,3-

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benzodiazephyne, and N-acetyl-1-(4-aminophenyl)-4-methyl-7,8-methylenedioxy-5H-2,3-benzodiazephyne. These structures require the 7- and 8- substituents to be the same and to be alkoxy groups.

In contrast, the 7- and 8- substituents cannot be both alkoxy groups, much less the same alkoxy group. As such, Rona does not anticipate claims 16-19, 23 and 24, as amended.

Lang

Lang at cols. 1 and 2 describes a structure having two alkoxy groups at the 7- and 8-position of the formula described therein.

In contrast, the corresponding 7- and 8- substituents cannot be both alkoxy groups, much less the same alkoxy group. As such, Lang does not anticipate claims 16-19, 23-27 and 30, as amended.

Ling

Ling, in the relevant part, describes 4,5-dihydro-3H-2,3-benzodiazepin compounds (see, Examples 3-9 and claim 2). Ling also describes 5H-2,3-benzodiazepin (Example 3, and claim 2). Moreover, the structure at p. 1 requires an un-saturation in the diazepine ring of the structure (represented by the dash line covering the 3-, 4-, and 5- position of the diazepine ring). Therefore, the generic structure in Ling does not encompass compounds which do not have an un-saturation in the 3-, 4-, and 5- positions of the diazepine ring.

In contrast, claims 1-30 are drawn to 5H-2,3-benzodiazepine or 3,5-dihydro-5H-2,3-benzodiazepine compounds, compositions forming of the compounds or methods of using the compositions and/or compounds. Moreover, claims 16 and 25 are amended to delete "H" from the definition of R³, which corresponds to the 7- position of the 3,5-dihydro-5H-2,3-

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benzodiazepine structure. In addition, claims 20 and 28 are amended to delete 1-(4-aminophenyl)-4-methyl-8-methoxy-5H-2,3-benzodiazepine from the Markush group. As such, none of the compounds defined in any of claims 1-30 fall within the scope of the disclosure by Ling. As such, Ling does not anticipate claims 1-30 under 35 U.S.C. 102(b).

Rejections under 35 U.S.C. 103

Claims 16-19, 23-27 and 30 were rejected under 35 U.S.C. 103 as obvious over Lang.

Claims 1-30 were rejected under 35 U.S.C. 103 as obvious over Ling. The applicants respectfully traverse the rejections if they applied to the claims as amended.

In holding claims 16-19, 23-27 and 30 were obvious, the Examiner alleged that the generic structure described in Lang encompasses the claimed compounds of the present application and, therefore, one of ordinary skill in the art would have been motivated to make and use the claimed compounds and compositions. However, as the foregoing discussion shows, the definition of the compounds defined by formula II of claims 16 and 25, as amended, would cause one of the substituents on the 7- and 8- positions not to be an alkoxy group. Therefore, one of ordinary skill in the art taught by Lang would be motivated to make and use species encompassed by the generic structure disclosed in Lang, not the compounds defined any of claims 16-19, 23-27 and 30, as amended.

In holding that claims 1-30 were obvious over Ling, the examiner alleged that the general structure described by Ling encompasses the compounds defined in any of claims 1-30 such that one of ordinary skill in the art would have been motivated to make and use the compounds and compositions defined in any of claims 1-30. The applicants respectfully disagree. The structure at p. 1 requires an un-saturation in the diazepine ring of the structure (represented by the dash

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line covering three atoms of the diazepine ring). Therefore, the generic structure in Ling does not encompass compounds defined in any of claims 1-15. Moreover, the species described at Examples 3-9 and claim 2 are all 3H-2,3-benzodiazepine compounds, as compared to the 5H-2,3-benzodiazepine compounds defined in any of claims 16-30, and 1-(4-aminophenyl)-4-methyl-8-methoxy-5H-2,3-benzodiazepine, which does not fall within the definition of the compounds defined by formula II. Therefore, one of ordinary skill in the art would not be motivated to make and use the compounds defined in any of claims 1-30.

Allowance of all of claims 1-30 is therefore earnestly solicited. A marked-up copy and a clean copy of the pending claims as amended are attached as appendices.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that the Amendment and Response to Office Action, Certificate of Facsimile Transmission and Extension of Time Request and any other documents referred to as being attached or enclosed, has been sent via facsimile transmission is to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Date: March 20, 2003

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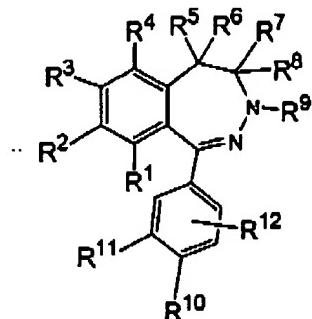
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APPENDIX I: MARKED-UP COPY OF CLAIMS

1. (amended) A compound of Formula I:



wherein

 R^1, R^2, R^3 and R^4 are independently $H,$ $HO,$ $R^{13}O-,$

Halogen[(F, Cl, Br)],

C1-C3-alkyl,

 $CF_3,$ $R^{14}CO_2-,$ $R^{14}O_2C-,$ $R^{14}CO-,$ $R^{14}CONH-,$ $R^{14}NHCO-,$ $R^{14}NHCO_2-,$ $R^{14}OCONH-,$

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 $\text{R}^{14}\text{O}_2\text{S}-$, $\text{R}^{14}\text{OS}-$, $\text{R}^{14}\text{S}-$, or $\text{R}^{15}\text{R}^{16}\text{N}-$; or R^1 and R^2 , or R^2 and R^3 , or R^3 and R^4 taken together can be $-\text{SCH}_2\text{S}-$, $-\text{SCH}_2\text{O}-$, $-\text{OCH}_2\text{S}-$, $-\text{SCH}_2\text{CH}_2\text{S}-$, $-\text{SCH}_2\text{CH}_2\text{O}-$, or $-\text{OCH}_2\text{CH}_2\text{S}-$;wherein one of R^1 , R^2 , R^3 and R^4 must be C1-C3-alkoxy or C1-C3-alkylthio group; R^5 , R^6 , R^7 , and R^8 are independently

H,

C1-C6-alkyl,

C3-C6-alkenyl,

C3-C6-cycloalkyl,

phenyl or substituted phenyl, wherein the phenyl is substituted with one or two substituents, C1-C3-alkyl, halogen[(F, Cl, Br)], $\text{R}^{13}\text{O}-$, CF_3- , $\text{R}^{14}\text{O}_2\text{S}-$, $\text{R}^{14}\text{OS}-$, $\text{R}^{14}\text{CO}-$, $\text{R}^{14}\text{CO}_2-$, $\text{R}^{14}\text{O}_2\text{C}-$, $\text{R}^{14}\text{CONH}-$, R^{14}NHCO ; or R^5 and R^6 taken together can be C3-C6-cycloalkyl; R^7 and R^8 taken together can be C3-C6-cycloalkyl;

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 R^9 is $R^{15}R^{16}NCO-$, $R^{15}R^{16}NCS-$, $R^{15}R^{16}N(CR^{17})-$, $R^{17}OCO-$, $R^{15}CO-$, $R^{15}R^{16}NCH_2CO-$, $R^{14}O_2C-(CH_2)_n-$, $R^{15}R^{16}NCO-(CH_2)_n-$, $NC-(CH_2)_n-$, H ,Cl-C₆-alkyl,C₃-C₆-alkenyl, orC₃-C₆-cycloalkyl; or R^8 and R^9 taken together can be $-(CH_2)_mCH_2(R^{15})NCO-$, $-(CH_2)_mCH_2OCO-$, or $-(CH_2)_mCH_2CH_2CO-$; R^{10} and R^{11} are independently H , $R^{15}R^{16}N-$, $R^{15}R^{16}N(CR^{17})-$,

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 $R^{14}HNCO-$, or $R^{14}CONH-$; R^{12} is

H,

Halogen[(F, Cl, Br)],

HO,

 $R^{13}O-$, $R^{15}R^{16}N-$,

C1-C3-alkyl,

CF₃, $R^{14}CO_2-$, $R^{14}CO-$, or $R^{14}CONH-$; R^{13} is C1-C3-alkyl; R^{14} is H or C1-C3-alkyl; R^{15} and R^{16} are independently

H,

C1-C10-alkyl,

C1-C6-perfluoroalkyl,

C3-C10-alkenyl, or

C3-C6-cycloalkyl; or

 R^{15} and R^{16} taken together can be C3-C6-cycloalkyl;

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R^{17} is C1-C6-alkyl, C3-C6-alkenyl, or C3-C6-cycloalkyl;

n is 1 to 6;

m is 0 to 2;

and pharmaceutically acceptable salts thereof;

wherein R^{10} and R^{11} cannot be both H.

2. (amended) The compound of claim 1 of Formula I wherein

one of four substituents of R^1 , R^2 , R^3 and R^4 must be C1-C3-alkylthio group or C1-C3-alkoxy group, the other substituents are independently H, $R^{13}O-$, $[R^{13}S-] R^{14}S-$, halogen[(F, Cl, Br)], or C1-C3-alkyl;

R^2 and R^3 taken together can be $-SCH_2S-$, $-SCH_2O-$, or $-OCH_2S-$;

R^9 is

$R^{15}R^{16}NCO-$,

$R^{15}R^{16}NCS-$,

$R^{15}R^{16}N(CR^{17})-$,

$R^{17}OCO-$, or

$R^{15}CO-[$, or]

H;

R^{10} and R^{11} are independently H, H_2N- , or CH_3CONH- ; and pharmaceutically acceptable salts thereof.

3. (amended) A composition comprising [The]the compound of claim 2 and [further comprising] a pharmaceutically acceptable carrier.

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4. (amended) The [compound] composition of claim 3 in a dosage form comprising a therapeutically effective amount of the compound for treating a disorder in a patient associated with excessive activation of the α -amino-3-hydroxy-5-methyl-4-isooxazoleproprionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors.

5. (amended) The compound of claim 2 of Formula I selected from the group consisting of

1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-7-methoxy-5H-2,3-benzodiazepine, [1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine,] 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-methylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-ethylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-propylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-butylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-acetyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-methylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-ethylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-propylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-butylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-methylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-ethylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-propylcarbamoyl-8-methoxy-5H-2,3-

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benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-butylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-methylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-ethylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-propylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-butylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-methylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-ethylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-propylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-butylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-acetyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-methylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-ethylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-propylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-butylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-methylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-ethylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-propylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine

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propylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-butylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-acetyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-methylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-ethylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-propylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, and 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-butylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine.

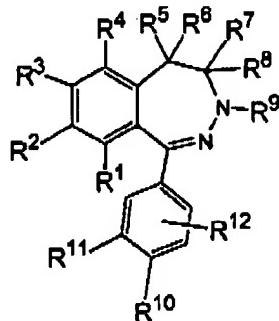
6. (amended) A composition comprising [The] the compound of claim 5 [further comprising] and a pharmaceutically acceptable carrier.
7. (amended) The [compound] composition of claim 6 in a dosage form comprising a therapeutically effective amount of the compound for treating a disorder in a patient associated with excessive activation of the α -amino-3-hydroxy-5-methyl-4-isooxazoleproprionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors.
8. (amended) A composition comprising the [The] compound of claim 1 [further comprising] and a pharmaceutically acceptable carrier.
9. (amended) The [compound] composition of claim 8 in a dosage form comprising a therapeutically effective amount of the compound for treating a disorder in a patient associated with excessive activation of the α -amino-3-hydroxy-5-methyl-4-isooxazoleproprionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors.
10. (amended) A method for treating a patient having a disorder associated with excessive activation of the α -amino-3-hydroxy-5-methyl-4-isooxazoleproprionic acid (AMPA)

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subtype of the ionotropic excitatory amino acid (EAA) receptors, the method comprising administering to the patient, in an effective amount to alleviate the symptoms of the disorder, a compound of Formula I:



wherein

 R^1, R^2, R^3 and R^4 are independently

H,

HO,

 $R^{13}O^-$,

halogen[(F, Cl, Br)],

C1-C3-alkyl,

 CF_3 , $R^{14}CO_2^-$, $R^{14}O_2C^-$, $R^{14}CO^-$, $R^{14}CONH^-$, $R^{14}NHCO^-$, $R^{14}NHCO_2^-$,

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 $R^{14}OCONH-$, $R^{14}O_2S-$, $R^{14}OS-$, $R^{14}S-$ or $R^{15}R^{16}N-$; or R^1 and R^2 , or R^2 and R^3 , or R^3 and R^4 taken together can be $-SCH_2S-$, $-SCH_2O-$, $-OCH_2S-$, $-SCH_2CH_2S-$, $-SCH_2CH_2O-$, or $-OCH_2CH_2S-$;wherein one of R^1 , R^2 , R^3 and R^4 must be C1-C3-alkoxy or C1-C3-alkylthio group; R^5 , R^6 , R^7 , and R^8 are independently

H,

C1-C6-alkyl,

C3-C6-alkenyl,

C3-C6-cycloalkyl,

phenyl or substituted phenyl, wherein the phenyl is substituted with one or two substituents, C1-C3-alkyl, halogen[(F, Cl, Br)], $R^{13}O-$, CF_3- , $R^{14}O_2S-$, $R^{14}OS-$, $R^{14}CO$, $R^{14}CO_2-$, $R^{14}O_2C-$, $R^{14}CONH-$, $R^{14}NHCO$; or R^5 and R^6 taken together can be C3-C6-cycloalkyl;

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 R^7 and R^8 taken together can be C3-C6-cycloalkyl; R^9 is $R^{15}R^{16}NCO-$, $R^{15}R^{16}NCS-$, $R^{15}R^{16}N(CR^{17})-$, $R^{17}OCO-$, $R^{15}CO-$, $R^{15}R^{16}NCH_2CO-$, $R^{14}O_2C-(CH_2)_n-$, $R^{15}R^{16}NCO-(CH_2)_n-$, $NC-(CH_2)_n-$,

H,

C1-C6-alkyl,

C3-C6-alkenyl, or

C3-C6-cycloalkyl; or

 R^8 and R^9 taken together can be $-(CH_2)_mCH_2(R^{15})NCO-$, $-(CH_2)_mCH_2OCO-$, or $-(CH_2)_mCH_2CH_2CO-$; R^{10} and R^{11} are independently

H,

 $R^{15}R^{16}N-$,

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 $R^{15}R^{16}N(CR^{17})-$, $R^{14}HNCO-$, or $R^{14}CONH-$; R^{12} is

H,

Halogen[(F, Cl, Br)],

HO,

 $R^{13}O-$, $R^{15}R^{16}N-$,

C1-C3-alkyl,

CF₃, $R^{14}CO_2-$, $R^{14}CO-$, or $R^{14}CONH-$; R^{13} is C1-C3-alkyl; R^{14} is H or C1-C3-alkyl; R^{15} and R^{16} are independently

H,

C1-C10-alkyl,

C1-C6-perfluoroalkyl,

C3-C10-alkenyl, or

C3-C6-cycloalkyl; or

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R^{15} and R^{16} taken together can be C3-C6-cycloalkyl;

R^{17} is C1-C6-alkyl, C3-C6-alkenyl, or C3-C6-cycloalkyl;

n is 1 to 6;

m is 0 to 2;

and pharmaceutically acceptable salts thereof;

wherein R^{10} and R^{11} cannot be both H,

in combination with a pharmaceutically acceptable carrier.

11. (amended) The method of claim 10 wherein, in the compound of Formula I, one of four substituents of R^1 , R^2 , R^3 and R^4 must be C1-C3-alkylthio group or C1-C3-alkoxy group, the other substituents are independently H, $R^{13}O-$, $[R^{13}S-] R^{14}S-$, halogen[(F, Cl, Br)], or C1-C3-alkyl;

R^2 and R^3 taken together can be $-SCH_2S-$, $-SCH_2O-$, or $-OCH_2S-$;

R^9 is

$R^{15}R^{16}NCO-$,

$R^{15}R^{16}NCS-$,

$R^{15}R^{16}N(CR^{17})-$,

$R^{17}OCO-$, or

$R^{15}CO-[$, or]

H;

R^{10} and R^{11} are independently H, H_2N- , or CH_3CONH- ; and pharmaceutically acceptable salts thereof.

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12. The method of claim 11 wherein the disorder is selected from the group consisting of neurological, neuropsychological, neuropsychiatric, neurodegenerative, neuropsychopharmacological and functional disorders.

13. (amended) The method of claim 11 wherein the compound of Formula I is selected from the group consisting of

1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-7-methoxy-5H-2,3-benzodiazepine,
 [1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine,] 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-methylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-ethylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine,
 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-propylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-butylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-acetyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-methylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-ethylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-propylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-butylcarbamoyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-methylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-ethylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-propylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-butylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine,

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2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-acetyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-methylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-ethylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-propylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-butylcarbamoyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-methylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-ethylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-propylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-butylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-acetyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-methylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-ethylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-propylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-3,5-dihydro-4-methyl-3-butylcarbamoyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-acetyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-methylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-ethylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-propylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-methyl-3-butylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-3,5-dihydro-4-

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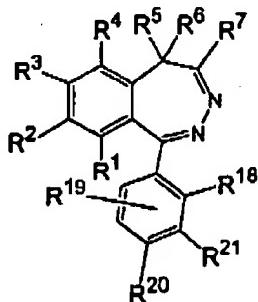
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methyl-3-butylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-acetyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-methylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-ethylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-propylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine, and 1-(4-Aminophenyl)-7-amino-3,5-dihydro-4-methyl-3-butylcarbamoyl-8-methylthio-5H-2,3-benzodiazepine.

14. The method of claim 13 wherein the disorder is selected from the group consisting of neurological, neuropsychological, neuropsychiatric, neurodegenerative, neuropsychopharmacological and functional disorders.

15. The method of claim 10 wherein the disorder is selected from the group consisting of neurological, neuropsychological, neuropsychiatric, neurodegenerative, neuropsychopharmacological and functional disorders.

16. (amended) A compound of Formula II:



wherein

R¹, R², R³ and R⁴ are independently
H,

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HO,

 $R^{13}O^-$,

Halogen[(F, Cl, Br)],

C1-C3-alkyl,

 CF_3 , $R^{14}CO_2^-$, $R^{14}O_2C^-$, $R^{14}CO^-$, $R^{14}CONH^-$, $R^{14}NHCO^-$, $R^{14}NHCO_2^-$, $R^{14}OCONH^-$, $R^{14}O_2S^-$, $R^{14}OS^-$, $R^{14}S^-$, or $R^{15}R^{16}N^-$; or R^2 is one of H, HO, $R^{13}O^-$, halogen, C1-C3-alkyl, CF_3 , $R^{14}CO_2^-$, $R^{14}O_2C^-$, $R^{14}CO^-$, $R^{14}CONH^-$, $R^{14}NHCO^-$, $R^{14}NHCO_2^-$, $R^{14}OCONH^-$, $R^{14}O_2S^-$, $R^{14}OS^-$, $R^{14}S^-$ and $R^{15}R^{16}N^-$ when R^3 is one of HO, halogen, C1-C3-alkyl, CF_3 , $R^{14}CO_2^-$, $R^{14}O_2C^-$, $R^{14}CO^-$, $R^{14}CONH^-$, $R^{14}NHCO^-$,, $R^{14}NHCO_2^-$, $R^{14}OCONH^-$, $R^{14}O_2S^-$, $R^{14}OS^-$, $R^{14}S^-$, and $R^{15}R^{16}N^-$; or R^2 is one of H, HO, halogen, C1-C3-alkyl, CF_3 , $R^{14}CO_2^-$, $R^{14}O_2C^-$, $R^{14}CO^-$, $R^{14}CONH^-$, $R^{14}NHCO^-$, $R^{14}NHCO_2^-$, $R^{14}OCONH^-$, $R^{14}O_2S^-$, $R^{14}OS^-$, $R^{14}S^-$ and $R^{15}R^{16}N^-$ when R^3 is one of

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H, HO, R¹³O-, halogen, C1-C3-alkyl, CF₃, R¹⁴CO₂-, R¹⁴O₂C-, R¹⁴CO-, R¹⁴CONH-, R¹⁴NHCO-,R¹⁴NHCO₂-, R¹⁴OCONH-, R¹⁴O₂S-, R¹⁴OS-, R¹⁴S-, and R¹⁵R¹⁶N-; orR¹ and R², or R² and R³, or R³ and R⁴ taken together can be-SCH₂S-,-SCH₂O-,-OCH₂S-,-SCH₂CH₂S-,-SCH₂CH₂O-, or-OCH₂CH₂S-; orone of four substituents of R¹, R², R³ and R⁴ must be C1-C3-alkoxy or C1-C3-alkylthio

group;

R⁵, R⁶, and R⁷ are independently

H,

C1-C6-alkyl,

C3-C6-alkenyl,

C3-C6-cycloalkyl, or

phenyl or substituted phenyl, wherein the phenyl is substituted with one or two
substituents, C1-C3-alkyl, halogen[(F, Cl, Br)], R¹³O-, CF₃-, R¹⁴O₂S-, R¹⁴OS-, R¹⁴CO,
R¹⁴CO₂-, R¹⁴O₂C-, R¹⁴CONH-, R¹⁴NHCO; orR⁵ and R⁶ taken together can be C3-C6-cycloalkyl;R¹³ is C1-C3-alkyl;R¹⁴ is H or C1-C3-alkyl;

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R¹⁵ and R¹⁶ are independently

H,

C1-C10-alkyl,

C1-C6-perfluoroalkyl,

C3-C10-alkenyl, or

C3-C6-cycloalkyl; or

R¹⁵ and R¹⁶ taken together can be C3-C6-cycloalkyl;**[R¹⁷ is C1-C6-alkyl, C3-C6-alkenyl, or C3-C6-cycloalkyl;]****R¹⁸ and R¹⁹ are independently**

H,

Halogen[(F, Cl, Br)],

C1-C3-alkyl,

R¹⁴O-,CF₃-; orR¹⁴CO₂-;**R²⁰ and R²¹ are independently**

H,

R¹⁵R¹⁶N-,.. R¹⁵HNC(NH)-, orR¹⁴CONH-;

and pharmaceutically acceptable salts thereof;

wherein R²⁰ and R²¹ cannot both be H.

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17. (amended) The compound of claim 16 of Formula II wherein one of four substituents of R¹, R², R³ and R⁴ must be C1-C3-alkylthio or C1-C3-alkoxy group, the other substituents are independently H, R¹³O-, R¹³S-, halogen[(F, Cl, Br)], or C1-C3-alkyl; R² and R³ taken together can be -SCH₂S-, -SCH₂O-, or -OCH₂S-; R²⁰ and R²¹ are independently H, H₂N-, or CH₃CONH-; and pharmaceutically acceptable salts thereof.

18. (amended) A composition comprising the [The] compound of claim 17 [further comprising] and a pharmaceutically acceptable carrier.

19. (amended) The composition [compound] of claim 18 in a dosage form comprising a therapeutically effective amount of the compound for treating a disorder in a patient associated with excessive activation of the α -amino-3-hydroxy-5-methyl-4-isooxazoleproprionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors.

20. (amended) The compound of claim 17 of Formula II selected from the group consisting of

1-(4-Aminophenyl)-4-methyl-7-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-4-methyl-7-methoxy-5H-2,3-benzodiazepine, [1-(4-Aminophenyl)-4-methyl-8-methoxy-5H-2,3-benzodiazepine,] 1-(4-Aminophenyl)-7-amino-4-methyl-8-methoxy-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-4-methyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-4-methyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-4-methyl-8-methylthio-5H-2,3-benzodiazepine, and 1-(4-Aminophenyl)-7-amino-4-methyl-8-methylthio-5H-2,3-benzodiazepine.

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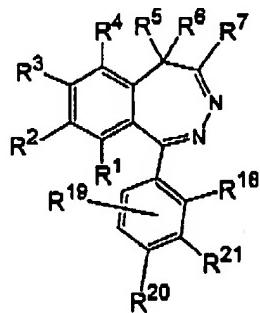
21. (amended) A composition comprising the compound of claim 20 [further comprising] and a pharmaceutically acceptable carrier.

22. (amended) The composition [compound] of claim 21 in a dosage form comprising a therapeutically effective amount of the compound for treating a disorder in a patient associated with excessive activation of the α -amino-3-hydroxy-5-methyl-4-isooxazolepropionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors.

23. (amended) A composition comprising the [The] compound of claim 16 [further comprising] and a pharmaceutically acceptable carrier.

24. (amended) The composition [compound] of claim 23 in a dosage form comprising a therapeutically effective amount of the compound for treating a disorder in a patient associated with excessive activation of the α -amino-3-hydroxy-5-methyl-4-isooxazolepropionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors.

25. (amended) A method for treating a patient having a disorder associated with excessive activation of the α -amino-3-hydroxy-5-methyl-4-isooxazolepropionic acid (AMPA) subtype of the ionotropic excitatory amino acid (EAA) receptors, the method comprising administering to the patient, in an effective amount to alleviate the symptoms of the disorder, a compound of Formula II:



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wherein

 R^1 [, R^2 , R^3] and R^4 are independently

H,

HO,

 $R^{13}O^-$,

Halogen[(F, Cl, Br)],

C1-C3-alkyl,

 CF_3 , $R^{14}CO_2^-$, $R^{14}O_2C^-$, $R^{14}CO^-$, $R^{14}CONH^-$, $R^{14}NHCO^-$, $R^{14}NHCO_2^-$, $R^{14}OCONH^-$, $R^{14}O_2S^-$, $R^{14}OS^-$, $R^{14}S^-$, or $R^{15}R^{16}N^-$; or R^2 is one of H, HO, $R^{13}O^-$, halogen, C1-C3-alkyl, CF_3 , $R^{14}CO_2^-$, $R^{14}O_2C^-$, $R^{14}CO^-$, $R^{14}CONH^-$, $R^{14}NHCO^-$, $R^{14}NHCO_2^-$, $R^{14}OCONH^-$, $R^{14}O_2S^-$, $R^{14}OS^-$, $R^{14}S^-$ and $R^{15}R^{16}N^-$ when

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R³ is one of HO, halogen, C1-C3-alkyl, CF₃, R¹⁴CO₂-, R¹⁴O₂C-, R¹⁴CO-, R¹⁴CONH-, R¹⁴NHCO-
, R¹⁴NHCO₂-, R¹⁴OCONH-, R¹⁴O₂S-, R¹⁴OS-, R¹⁴S-, and R¹⁵R¹⁶N-; or

R² is one of H, HO, halogen, C1-C3-alkyl, CF₃, R¹⁴CO₂-, R¹⁴O₂C-, R¹⁴CO-, R¹⁴CONH-,
R¹⁴NHCO-, R¹⁴NHCO₂-, R¹⁴OCONH-, R¹⁴O₂S-, R¹⁴OS-, R¹⁴S- and R¹⁵R¹⁶N- when R³ is one of
H, HO, R¹³O-, halogen, C1-C3-alkyl, CF₃, R¹⁴CO₂-, R¹⁴O₂C-, R¹⁴CO-, R¹⁴CONH-, R¹⁴NHCO-,
R¹⁴NHCO₂-, R¹⁴OCONH-, R¹⁴O₂S-, R¹⁴OS-, R¹⁴S-, and R¹⁵R¹⁶N-; or

R¹ and R², or R² and R³, or R³ and R⁴ taken together can be

-SCH₂S-,

-SCH₂O-,

-OCH₂S-,

-SCH₂CH₂S-,

-SCH₂CH₂O-, or

-OCH₂CH₂S-; or

one of four substituents of R¹, R², R³ and R⁴ must be C1-C3-alkoxy or C1-C3-alkylthio group;

R⁵, R⁶, and R⁷ are independently

H,

C1-C6-alkyl,

C3-C6-alkenyl,

C3-C6-cycloalkyl, or

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phenyl or substituted phenyl, wherein the phenyl is substituted with one or two substituents, C1-C3-alkyl, halogen[(F, Cl, Br)], R¹³O-, CF₃-; R¹⁴O₂S-, R¹⁴OS-, R¹⁴CO,

R¹⁴CO₂-; R¹⁴O₂C-, R¹⁴CONH-, R¹⁴NHCO; or

R⁵ and R⁶ taken together can be C3-C6-cycloalkyl;

R¹³ is C1-C3-alkyl;

R¹⁴ is H or C1-C3-alkyl;

R¹⁵ and R¹⁶ are independently

H,

C1-C10-alkyl,

C1-C6-perfluoroalkyl,

C3-C10-alkenyl, or

C3-C6-cycloalkyl; or

R¹⁵ and R¹⁶ taken together can be C3-C6-cycloalkyl;

[R¹⁷ is C1-C6-alkyl, C3-C6-alkenyl, or C3-C6-cycloalkyl;]

R¹⁸ and R¹⁹ are independently

H,

Halogen[(F, Cl, Br)],

C1-C3-alkyl,

R¹⁴O-,

CF₃-; or

R¹⁴CO₂-;

R²⁰ and R²¹ are independently

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H,

 $R^{15}R^{16}N^-$, $R^{15}HNC(NH)^-$, or $R^{14}CONH^-$;

and pharmaceutically acceptable salts thereof;

wherein R^{20} and R^{21} cannot both be H,

in combination with a pharmaceutically acceptable carrier.

26. (amended) The method of claim 25 wherein, in the compound of Formula II, one of four substituents of R^1 , R^2 , R^3 and R^4 must be C1-C3-alkylthio or C1-C3-alkoxy group, the other substituents are independently H, $R^{13}O^-$, $R^{13}S^-$, halogen [(F, Cl, Br)], or C1-C3-alkyl; R^2 and R^3 taken together can be $-SCH_2S-$, $-SCH_2O-$, or $-OCH_2S-$; R^{20} and R^{21} are independently H, H_2N^- , or CH_3CONH^- ; and pharmaceutically acceptable salts thereof.

27. The method of claim 26 wherein the disorder is selected from the group consisting of neurological, neuropsychological, neuropsychiatric, neurodegenerative, neuropsychopharmacological and functional disorders.

28. (amended) The method of claim 26 wherein the compound of Formula II is selected from the group consisting of

1-(4-Aminophenyl)-4-methyl-7-methoxy-5*H*-2,3-benzodiazepine, 1-(4-Aminophenyl)-8-amino-4-methyl-7-methoxy-5*H*-2,3-benzodiazepine, [1-(4-Aminophenyl)-4-methyl-8-methoxy-5*H*-2,3-benzodiazepine,] 1-(4-Aminophenyl)-7-amino-4-methyl-8-methoxy-5*H*-2,3-benzodiazepine, 1-(4-Aminophenyl)-4-methyl-7-methylthio-5*H*-2,3-benzodiazepine, 1-(4-

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AMENDMENT AND RESPONSE TO OFFICE ACTION

Aminophenyl)-8-amino-4-methyl-7-methylthio-5H-2,3-benzodiazepine, 1-(4-Aminophenyl)-4-methyl-8-methylthio-5H-2,3-benzodiazepine, and 1-(4-Aminophenyl)-7-amino-4-methyl-8-methylthio-5H-2,3-benzodiazepine.

29. The method of claim 28 wherein the disorder is selected from the group consisting of neurological, neuropsychological, neuropsychiatric, neurodegenerative, neuropsychopharmacological and functional disorders.

30. The method of claim 25 wherein the disorder is selected from the group consisting of neurological, neuropsychological, neuropsychiatric, neurodegenerative, neuropsychopharmacological and functional disorders.